

| | PS | 062 | 020 | S1 | N1 | F1 | M02 | C130 | E00 | B00 | Lxxx.xxx | |
|---|----|-----|-----|----------------------------------|----|----|-----|----------------------------|-----|-----|--------------------------------|--|
| Precision Screw | | | | | | | | | | | | |
| Screw Diameter | | | | | | | | | | | | |
| 062 - 0.625 inch | | | | | | | | | | | 16M - 16 mm | |
| Screw Lead | | | | | | | | | | | | |
| 020 - 0.200 inch | | | | | | | | | | | 10M - 10 mm | |
| 05M - 5 mm | | | | | | | | | | | 16M - 16 mm | |
| Support Configurations (see pages 65-66) | | | | | | | | | | | | |
| S1 - Simple - Simple | | | | | | | | | | | S4 - Rigid - Simple | |
| S2 - Fixed (LT) - Simple | | | | | | | | | | | S5 - Rigid - Rigid | |
| S3 - Fixed (HT) - Simple | | | | | | | | | | | S9 - other | |
| Nut Type (see pages 66-68) | | | | | | | | | | | | |
| N1 - NPL ball nut (RFT) | | | | | | | | | | | N9 - other | |
| N2 - NPL ball nut (LFT) | | | | | | | | | | | | |
| N3 - PL ball nut (RFT) | | | | | | | | | | | | |
| N4 - PL ball nut (LFT) | | | | | | | | | | | | |
| Nut Flange Type (see page 68) | | | | | | | | | | | | |
| F0 - none | | | | F2 - Vertical bracket (E) | | | | F4 - L bracket (E) | | | | |
| F1 - Round flange | | | | F3 - Vertical bracket (M) | | | | F5 - L bracket (M) | | | | |
| | | | | | | | | F9 - other | | | | |
| Motor Mount (see pages 69, 96-97) | | | | | | | | | | | | |
| M00 - none | | | | | | | | | | | M06 - NEMA 23 (RH) wrap | |
| M01 - Hand crank | | | | | | | | | | | M07 - NEMA 23 (LH) wrap | |
| M02 - NEMA 23 mount (E) | | | | | | | | | | | M08 - NEMA 34 (RH) wrap | |
| M03 - NEMA 23 mount (M) | | | | | | | | | | | M09 - NEMA 34 (LH) wrap | |
| M04 - NEMA 34 mount (E) | | | | | | | | | | | | |
| M05 - NEMA 34 mount (M) | | | | | | | | | | | M99 - other | |
| Coupling Type (see pages 94-95) | | | | | | | | | | | | |
| C000 - none | | | | C025 to C029 - C100 | | | | C155 to C164 - H131 | | | | |
| C999 - other | | | | C048 to C055 - C125 | | | | C407 to C413 - G100 | | | | |
| | | | | C130 to C134 - H100 | | | | C435 to C444 - G126 | | | | |
| Rotary Encoder (see page 98) | | | | | | | | | | | | |
| E00 - none | | | | | | | | | | | E20 - 500 lines/rev | |
| E99 - other | | | | | | | | | | | E21 - 1000 lines/rev | |
| | | | | | | | | | | | E22 - 1270 lines/rev | |
| Power-off Brake (see page 99) | | | | | | | | | | | | |
| B00 - none | | | | | | | | | | | B20 - 24 VDC | |
| B99 - other | | | | | | | | | | | B21 - 90 VDC | |
| Thread Length (see page 66) | | | | | | | | | | | | |
| Lxxx.xxx - screw thread length (inches) | | | | | | | | | | | | |

Note: See page 14 for a complete description of the above part number system.

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| | |
|----------------------------|-----------------------------|
| (E) - English Interface | (M) - Metric Interface |
| (LFT) - Left Facing Thread | (NPL) - Non Preloaded |
| (LH) - Left Hand | (PL) - Preloaded |
| (LT) - Low Thrust | (RFT) - Right Facing Thread |
| (HT) - High Thrust | (RH) - Right Hand |

Screw & Nut Specifications

| Model Number | Nut Type | Diameter inches (mm) | Lead inches (mm) | Root Diameter inches (mm) | Ball Diameter inches (mm) | Number of Circuits | Static Load lbs (kgf) | Dynamic Load ⁽¹⁾ lbs (kgf) |
|---|-----------------------------------|----------------------------|------------------------|---------------------------------|---------------------------------|--------------------|-----------------------------|---|
| PS062020 0.625 inch dia. 0.200 inch lead | <i>Non-preloaded Ball (N1/N2)</i> | 0.625 (15,87) | 0.200 (5,08) | 0.513 (13,03) | 0.125 (3,17) | 1 | 2,700 (1224) | 876 (397) |
| | <i>Preloaded Ball (N3/N4)</i> | | | | | | 2,430 (1102) | 788 (357) |
| PS16M05M 16 mm dia. 5 mm lead | <i>Non-preloaded Ball (N1/N2)</i> | 0.629 (16,00) | 0.196 (5,00) | 0.513 (13,03) | 0.125 (3,17) | 1 | 2,700 (1224) | 876 (397) |
| | <i>Preloaded Ball (N3/N4)</i> | | | | | | 2,430 (1102) | 788 (357) |
| PS16M10M 16 mm dia. 10 mm lead | <i>Non-preloaded Ball (N1/N2)</i> | 0.629 (16,00) | 0.393 (10,00) | 0.503 (12,78) | 0.125 (3,17) | 1 | 2,630 (1192) | 1,080 (489) |
| | <i>Preloaded Ball (N3/N4)</i> | | | | | | 2,365 (1072) | 972 (440) |
| PS16M16M 16 mm dia. 16 mm lead | <i>Non-preloaded Ball (N1/N2)</i> | 0.629 (16,00) | 0.629 (16,00) | 0.529 (13,44) | 0.125 (3,17) | 1 | 1,620 (734) | 819 (371) |
| | <i>Preloaded Ball (N3/N4)</i> | | | | | | 1,455 (659) | 737 (334) |

Other Specifications

| | |
|--|---|
| Maximum Acceleration Rate | Ball nut: 772 inches/sec ² (19,6 m/sec ²) |
| Maximum Speed | Ball nut: 3000 rpm |
| Screw Material | Right Hand Thread, Case Hardened Rc 58 Steel Precision Rolled Ball Screw |
| Screw Extensions | 303 Woodruff Keyways on Extensions from Support Housings |
| Screw Maximum Length ⁽²⁾ | 78.74 inches (2000 mm) |
| Screw Weight | 0.87 lbs/ft (13,0 g/cm) |
| Support Housings | Steel with Black Oxide Finish, 45° Chamfer x .02 inch (0,50) all Straight Edges |
| Support Housing Features | Base or Face Mount with Integral Seals |
| Nut Flanges | Steel with Black Oxide Finish |
| Nut Flange Features | English or Metric Load Mounting Interface |

Footnotes:

- (1) Load based upon 1 million inches (25 Km) of travel life. See page 67 for further travel life ratings.
 (2) Maximum stock length (not the maximum thread length with bearing housings). See page 66 for maximum thread lengths for each configuration.

Screw Specifications

| Model Number | Nut Type | Screw Efficiency % | Lead Error inch/ft (mm/300 mm) | Backlash inches (mm) | Unidirectional Repeatability inches (mm) | Bidirectional Repeatability inches (mm) |
|--|--------------------------------------|--------------------|--------------------------------------|----------------------------|--|---|
| PS062020 0.625 inch dia. 0.200 inch lead & PS16M05M 16 mm dia. 5 mm lead & PS16M10M 16 mm dia. 10 mm lead & PS16M16M 16 mm dia. 16 mm lead | <i>Non-preloaded</i> Ball (N1/N2) | 90 | < 0.002 (0,050) | < 0.003 (0,076) | +/- 0.0002 (0,0050) | + 0.0002 to - 0.0032 (0,0050) (0,0813) |
| | <i>Preloaded</i> Ball (N3/N4) | 90 | < 0.002 (0,050) | 0 | +/- 0.0002 (0,0050) | + 0.0002 to - 0.0002 (0,0050) (0,0050) |

Assembly Specifications

| Model Number | Nut Type | Breakaway Torque oz-in (N-m) | | | | |
|---|--------------------------------------|------------------------------------|------------------|------------------|----------------|----------------|
| | | Simple-Simple | Fixed(LT)-Simple | Fixed(HT)-Simple | Rigid-Simple | Rigid-Rigid |
| PS062020 0.625 inch dia. 0.200 inch lead | <i>Non-preloaded</i> Ball (N1/N2) | < 8 (0,06) | < 10 (0,07) | < 25 (0,18) | < 25 (0,18) | < 35 (0,24) |
| | <i>Preloaded</i> Ball (N3/N4) | < 15 (0,10) | < 20 (0,14) | < 35 (0,24) | < 35 (0,24) | < 45 (0,32) |
| PS16M05M 16 mm dia. 5 mm lead | <i>Non-preloaded</i> Ball (N1/N2) | < 8 (0,06) | < 10 (0,07) | < 25 (0,18) | < 25 (0,18) | < 35 (0,24) |
| | <i>Preloaded</i> Ball (N3/N4) | < 15 (0,10) | < 20 (0,14) | < 35 (0,24) | < 35 (0,24) | < 45 (0,32) |
| PS16M10M 16 mm dia. 10 mm lead | <i>Non-preloaded</i> Ball (N1/N2) | < 10 (0,07) | < 15 (0,11) | < 30 (0,21) | < 30 (0,21) | < 40 (0,28) |
| | <i>Preloaded</i> Ball (N3/N4) | < 20 (0,14) | < 25 (0,18) | < 40 (0,28) | < 40 (0,28) | < 50 (0,35) |
| PS16M16M 16 mm dia. 16 mm lead | <i>Non-preloaded</i> Ball (N1/N2) | < 15 (0,10) | < 20 (0,14) | < 35 (0,24) | < 35 (0,24) | < 45 (0,32) |
| | <i>Preloaded</i> Ball (N3/N4) | < 30 (0,21) | < 35 (0,24) | < 50 (0,35) | < 50 (0,35) | < 55 (0,39) |

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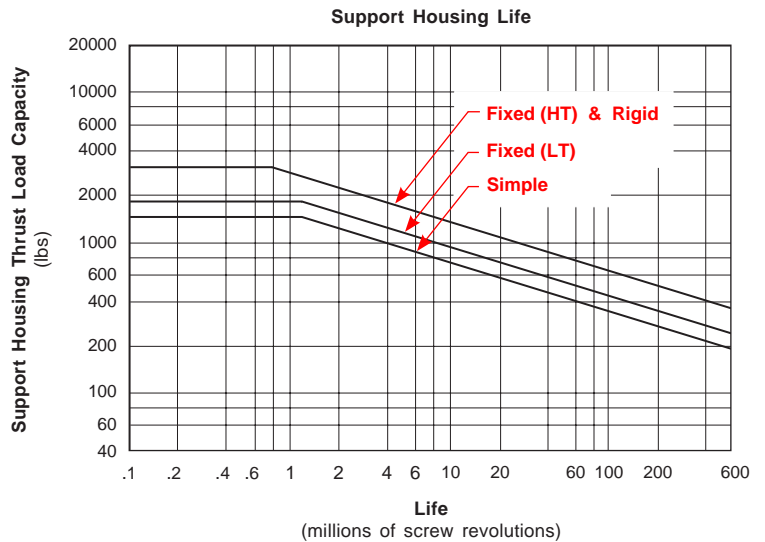
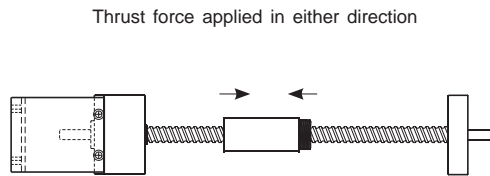
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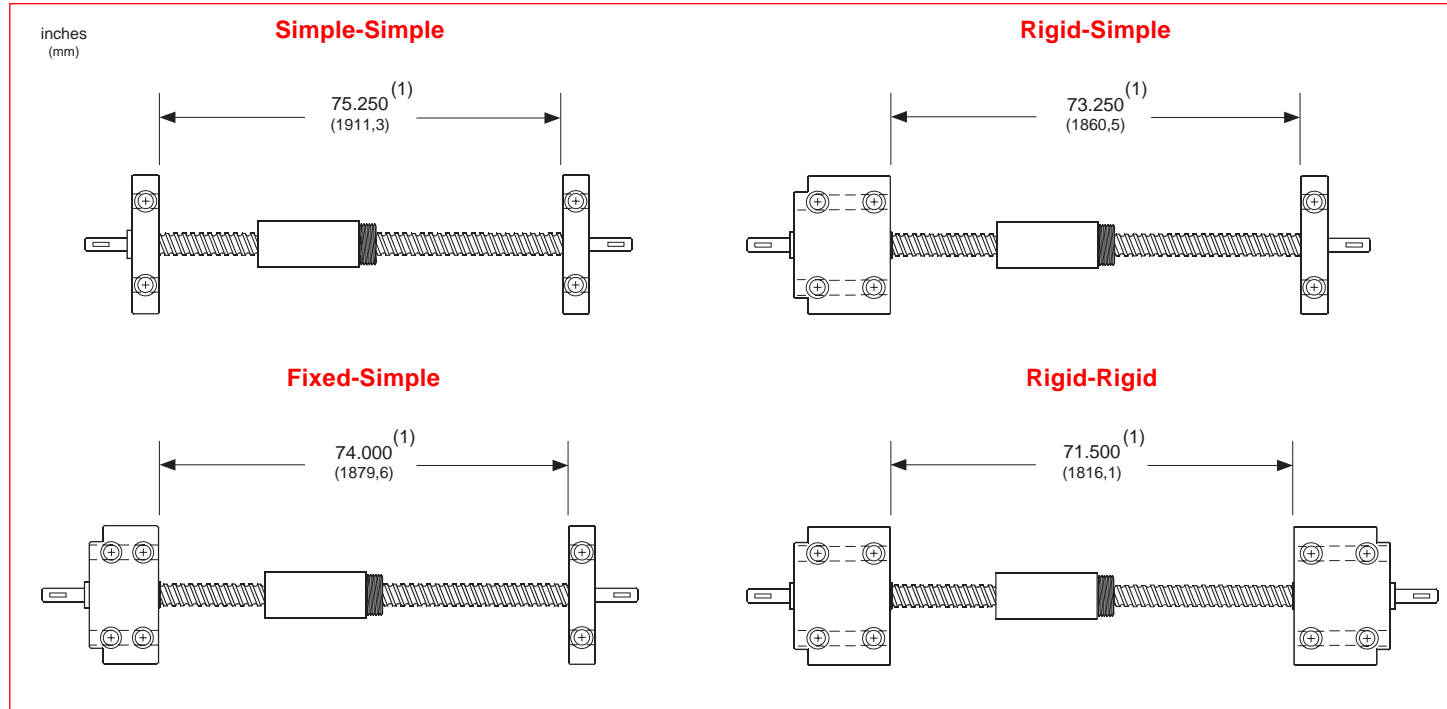
Support Housing Specifications

| Support Housing Life millions of screw revolutions | Support Housing Thrust Load Capacity - (Axial) | | | |
|---|--|----------------|-----------------|-----------------|
| | Simple | Fixed (LT) | Fixed (HT) | Rigid |
| Static | 1,370 (621) | 1,725 (782) | 3,105 (1408) | 3,105 (1408) |
| 1 | 1,370 (621) | 1,725 (782) | 2,875 (1304) | 2,875 (1304) |
| 2 | 1,215 (551) | 1,530 (694) | 2,195 (996) | 2,195 (996) |
| 10 | 710 (322) | 895 (406) | 1,295 (587) | 1,295 (587) |
| 50 | 410 (186) | 525 (238) | 790 (358) | 790 (358) |
| 100 | 330 (150) | 415 (188) | 630 (286) | 630 (286) |
| 500 | 195 (88) | 240 (109) | 365 (165) | 365 (165) |

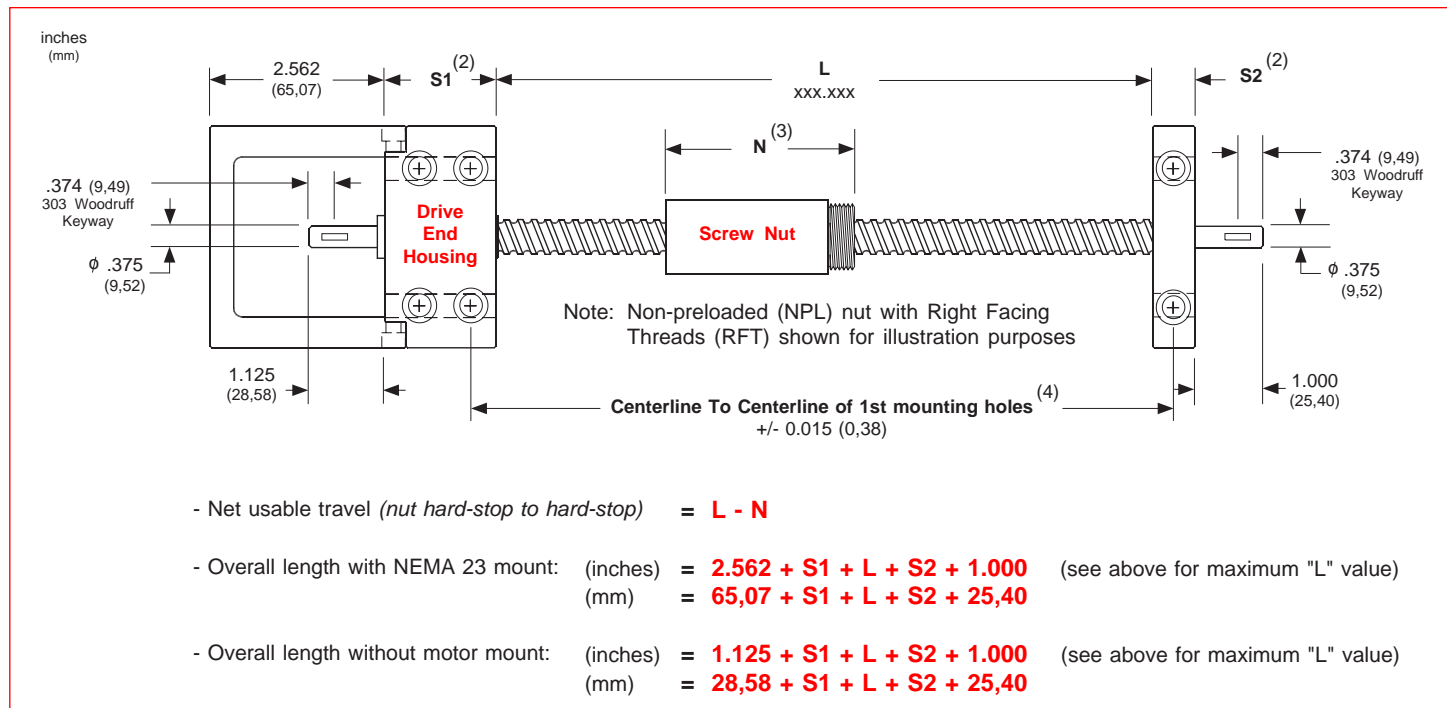


Note: Multiply screw revolutions by the screw lead in order to convert to inches (or mm) traveled by the nut.

Available Configurations



Overall Length Diagram

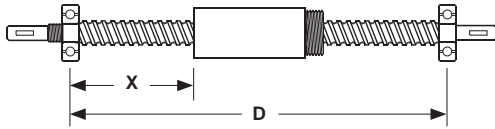


Footnotes:

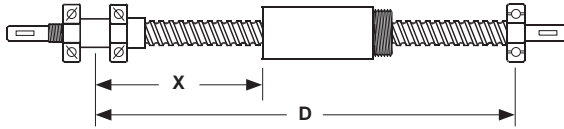
- (1) Maximum available standard screw thread length for the bearing support housing configuration shown.
- (2) Fixed-simple support configuration shown for reference. See page 69 for length values for simple, fixed, and rigid housings.
- (3) See page 68 for available nut styles. Refer to A1 & A2 values for the nut length.
- (4) Tolerance shown is for base mounted support housings. Tolerance also applies to face mounted support housings.

Performance Charts

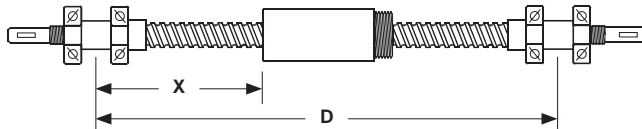
Simple-Simple



Rigid-Simple

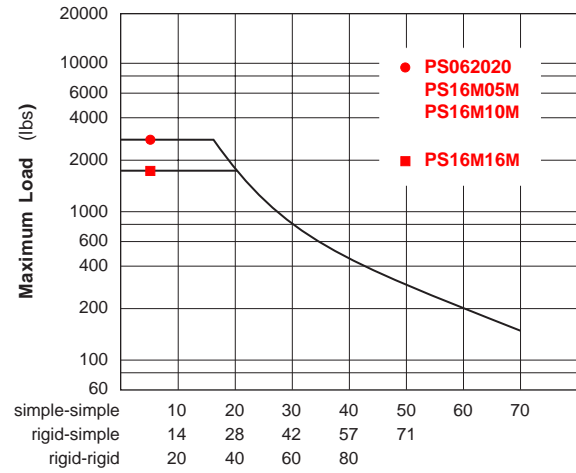


Rigid-Rigid



Maximum Compression Load ⁽¹⁾

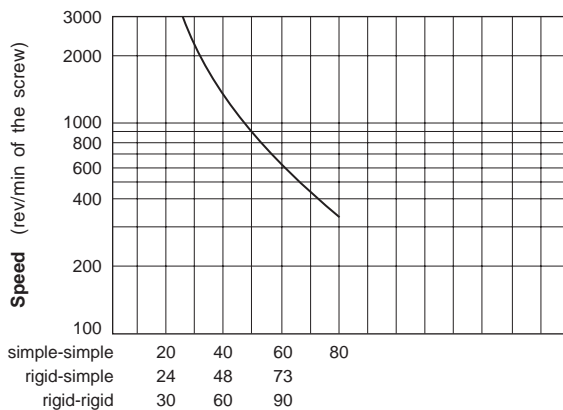
| X inches (mm) | simple-simple | | rigid-simple | | rigid-rigid | |
|------------------|---------------|-------|--------------|-------|-------------|-------|
| | lbs | (kgf) | lbs | (kgf) | lbs | (kgf) |
| 20 (508) | 1620 | (735) | 1620 | (735) | 1620 | (735) |
| 40 (1016) | 450 | (204) | 900 | (408) | 1620 | (735) |
| 60 (1524) | 200 | (91) | 400 | (181) | 800 | (363) |



Maximum "X" distance between bearing support and Load (inches)

Maximum Speed ⁽¹⁾

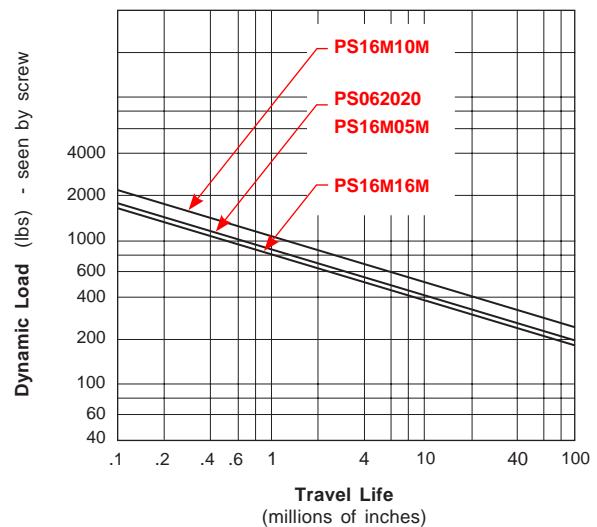
| D inches (mm) | simple-simple | rigid-simple | rigid-rigid |
|------------------|---------------|--------------|-------------|
| | rpm | rpm | rpm |
| 27 (686) | 3000 | 3000 | 3000 |
| 40 (1016) | 1340 | 1970 | 2990 |
| 60 (1524) | 595 | 870 | 1325 |
| 70 (1778) | 435 | 640 | 970 |



Maximum "D" distance between bearing supports (inches)

Screw Travel Life ⁽²⁾

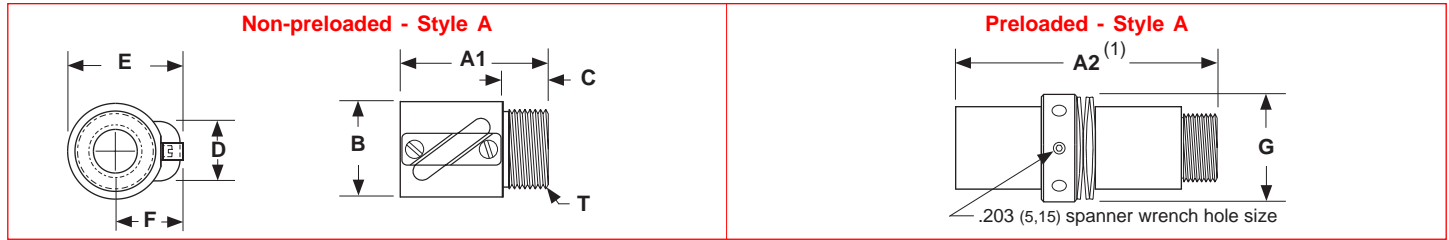
| Life millions of inches (km) | 062020/16M05M | | 16M10M | | 16M16M | |
|---------------------------------|---------------|-------|--------|-------|--------|-------|
| | lbs | (kgf) | lbs | (kgf) | lbs | (kgf) |
| 1 (25) | 876 | (397) | 1,080 | (489) | 819 | (371) |
| 2 (50) | 696 | (315) | 858 | (389) | 650 | (294) |
| 50 (1270) | 240 | (108) | 297 | (134) | 225 | (102) |
| 100 (2540) | 190 | (86) | 235 | (106) | 179 | (81) |



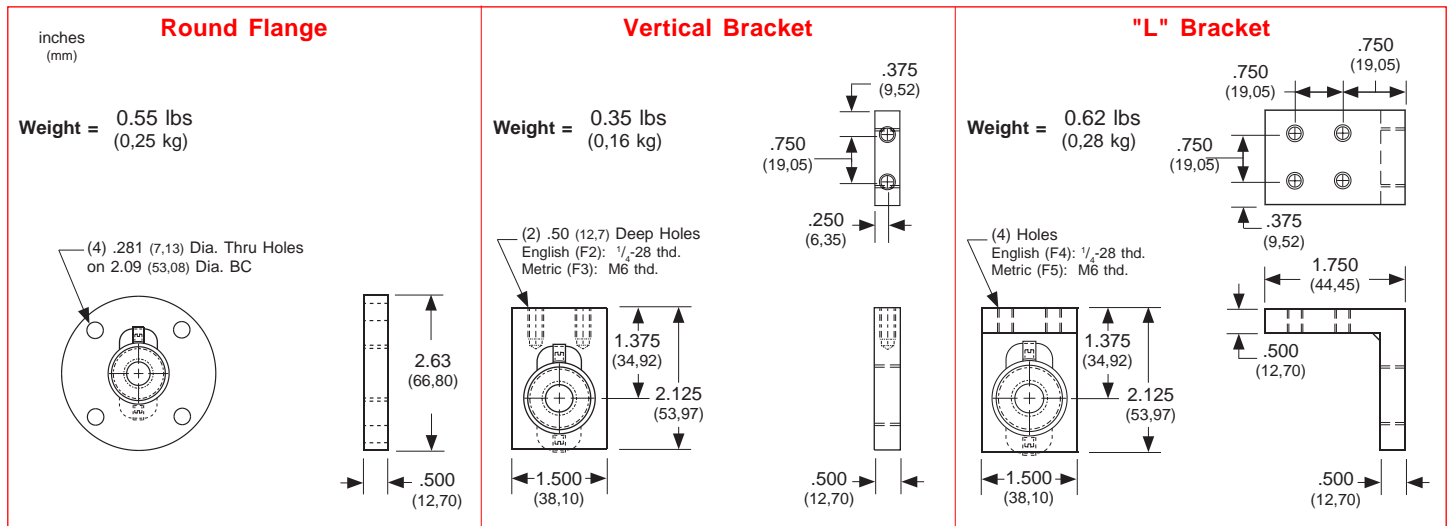
Footnotes:

- (1) Refer to the simple-simple support lengths for fixed-simple configurations. A fixed housing performs like a simple housing for critical speed and compression load specifications. Maximum speeds may not be reached using a Turcite nut due to system friction.
- (2) Multiply life value from chart (or graph) by 0.90 to obtain the life for a preloaded ball nut.

Nut Dimensions



Nut Flange Dimensions



| Model Number | Nut Style | Nut Dimensions inches (mm) | | | | | | | | | Nut Weight ⁽³⁾ lbs (kg) |
|--------------|-----------|----------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|--|------------------|--|
| | | A1 | A2 ⁽¹⁾ | B | C | D | E | F | T - "V" Threads ⁽²⁾ | G | |
| PS062020 | A | 1.580 (40,13) | 3.410 (86,61) | 1.221 (31,01) | 0.500 (12,70) | 0.847 (21,51) | 1.398 (35,51) | 0.787 (20,00) | 15/16 - 16 UN-2A (23,81 - 16 UN-2A) | 1.410 (35,81) | 0.24 (0,11) |
| PS16M05M | A | 1.580 (40,13) | 3.410 (86,61) | 1.221 (31,01) | 0.500 (12,70) | 0.847 (21,51) | 1.398 (35,51) | 0.787 (20,00) | 15/16 - 16 UN-2A (23,81 - 16 UN-2A) | 1.410 (35,81) | 0.24 (0,11) |
| PS16M10M | A | 2.070 (52,59) | 4.370 (111,00) | 1.221 (31,01) | 0.500 (12,70) | 0.709 (18,01) | 1.398 (35,51) | 0.787 (20,00) | 15/16 - 16 UN-2A (23,81 - 16 UN-2A) | 1.410 (35,81) | 0.33 (0,15) |
| PS16M16M | A | 2.170 (55,12) | 4.630 (117,60) | 1.221 (31,01) | 0.500 (12,70) | 0.847 (21,51) | 1.398 (35,51) | 0.787 (20,00) | 15/16 - 16 UN-2A (23,81 - 16 UN-2A) | 1.410 (35,81) | 0.30 (0,14) |

Footnotes:

- (1) This is the length for a preloaded nut. Preloaded nut consists of two (2) non-preloaded nuts with a locking spanner nut, and belville springs.
- (2) All flange threads are internal (Type 2B) to match the external nut threads.
- (3) Weight of the non-preloaded nut. Multiply value by 2.1 to obtain the weight for the preloaded nut assembly.

Support Housing Dimensions

inches (mm)

.625 (15,87) 2.000 (50,80) (4) .343 (8,71) Dia.Thru Holes

2.500 (63,50) 1.750 (44,45) (4) 8-32 x .37 (9,39) Deep on 1.750 (44,45) BC

1.250 (31,75)

.375 (9,52) 1.625 (41,27) 3.250 (82,55)

Simple

(2) .343 (8,71) Dia. Thru Holes, .504 (12,8) Dia. C' Bored x .57 (14,47) Deep

.313 (7,95) .625 (15,87) .313 (7,95)

Drive End non-Drive End

Weight = 1.1 lbs (0,50 kg)

.625 (15,87) 2.000 (50,80) (4) .343 (8,71) Dia.Thru Holes

2.500 (63,50) 1.750 (44,45) (4) 8-32 x .37 (9,39) Deep on 1.750 (44,45) BC

1.250 (31,75)

.375 (9,52) 1.625 (41,27) 3.250 (82,55) .250 (6,35)

Fixed

(4) .343 (8,71) Dia. Thru Holes, .504 (12,8) Dia. C' Bored x .57 (14,47) Deep

1.125 (28,57) .688 (17,47) .125 (3,17) 1.750 (44,45)

(2) 10-32 x .43 (10,92) Deep, both sides

Weight = 2.7 lbs (1,22 kg)

.625 (15,87) 2.000 (50,80) (4) .343 (8,71) Dia.Thru Holes

2.500 (63,50) 1.750 (44,45) (4) 8-32 x .37 (9,39) Deep on 1.750 (44,45) BC

1.250 (31,75)

.375 (9,52) 1.625 (41,27) 3.250 (82,55) .250 (6,35)

Rigid

(4) .343 (8,71) Dia. Thru Holes, .504 (12,8) Dia. C' Bored x .57 (14,47) Deep

1.125 (28,57) .688 (17,47) .125 (3,17) 2.500 (63,50)

(2) 10-32 x .43 (10,92) Deep, both sides

Weight = 3.9 lbs (1,77 kg)

NEMA 23 Motor Mount

Weight = 0.9 lbs (0,41 kg)

(4) Holes on 2.625 (66,67) BC Dia. English (M02): #10-24 thd. Metric (M03): M5 thd.

1.502 (38,15) Pilot Dia. TYP

2.340 (59,44) 2.562 (65,07) .313 (7,95)

1.437 (36,50) 2.250 (57,15) 1.125 (28,57)

(2) .221 (5,61) Dia.Thru Holes, .344 (8,73) Dia. C' Bored x .125 (3,17) Deep, both sides

NEMA 34 Motor Mount

Weight = 1.4 lbs (0,64 kg)

(4) Holes on 3.875 (98,42) BC Dia. English (M04): #10-24 thd. Metric (M05): M5 thd.

2.877 (73,07) Pilot Dia. TYP

.063 (1,60) 2.340 (59,44) .500 (12,70) 2.562 (65,07) .313 (7,95)

1.937 (49,20) 3.375 (85,72) 1.688 (42,88) .438 (11,13)

(2) .221 (5,61) Dia.Thru Holes, .344 (8,73) Dia. C' Bored x .125 (3,17) Deep, both sides

Specifications subject to change without notice